

ABSTRACT OF THE DISCLOSURE

An illumination optical system for illuminating an illumination area on an illumination surface based on a light from a light source has a wavefront dividing type optical integrator and a light source image enlarging member. The wavefront dividing type optical integrator is arranged in an optical path between the light source and the illumination surface which forms a plurality of light source image. The light source image enlarging member is arranged in an optical path between the light source and the optical integrator at or near a position optically conjugate with the illumination surface. The light source image enlarging member enlarges the light source image. The illumination area has a slot shape with a first dimension and a second dimension which is perpendicular to the first dimension and the light source image enlarging member stretches the light source image along the first direction corresponding to the first dimension.